

IN THE CLAIMS

1. (Previously amended) An apparatus, comprising:

a piston having a longitudinal centerline and a first end including an annular surface, said piston having a circumferential sidewall portion and a bottom wall portion defining a combustion bowl at said first end with said annular surface extending thereround, said sidewall portion including a sharp edge at the intersection of said annular surface and a part of said sidewall portion extending parallel to the centerline and a substantially rounded lip spaced axially from said sharp edge and an upwardly flared portion located between said sharp edge and said substantially rounded lip, said rounded lip is closer to said centerline than said sharp edge is to said centerline, and wherein said sharp edge directs a fuel passing out of said combustion bowl away from said annular surface.

2. (Previously amended) The apparatus of claim 1, wherein said sharp edge limits the fuel from passing out of said combustion bowl and onto said annular surface.

3. (Previously amended) The apparatus of claim 1, wherein said sharp edge limits a fuel from passing out of said combustion bowl and across said annular surface.

4. (Original) The apparatus of claim 1, wherein said substantially rounded lip is located between said bottom wall portion and said sharp edge, and wherein said substantially rounded lip overhanging a portion of said combustion bowl.

5. (Cancelled)

6. (Previously amended) The apparatus of claim 1, wherein said part of said sidewall portion is located between said sharp edge and said upwardly flared portion.

7. (Cancelled)

8. (Previously amended) The apparatus of claim 1 wherein said combustion bowl is substantially symmetrical about said longitudinal centerline;
wherein said substantially rounded lip is located between said bottom wall portion and said sharp edge, and wherein said substantially rounded lip overhanging a portion of said combustion bowl.

9-12. (Cancelled)

13. (Previously amended) The apparatus of claim 1, wherein said piston is formed of one of a metallic, intermetallic, ceramic and composite material.

14. (Previously amended) An apparatus, comprising:
a piston body having a longitudinal centerline and a first end surface, said piston body having a combustion bowl defined therein with an entrance adjacent said first end surface, said piston body having a sharp edge portion extending around said entrance

for directing a fuel exiting said combustion bowl away from said first end surface and a rounded portion for receiving a fuel thereon within said combustion bowl, said rounded portion overhangs a portion of said combustion bowl and is located closer to said longitudinal centerline than said sharp edge portion is located to said centerline.

15. (Original) The apparatus of claim 14, wherein said piston body has an outer circumferential surface, and wherein said sharp edge portion is located radially inward of said outer circumferential surface; and wherein said combustion bowl is symmetrical about said longitudinal centerline.

16. (Original) The apparatus of claim 14, wherein said sharp edge portion directing the fuel exiting the combustion bowl in a direction approximately parallel with said centerline.

17. (Previously amended) The apparatus of claim 14, wherein said rounded portion extending circumferentially around said combustion bowl.

18. (Original) The apparatus of claim 17, wherein said piston body having a bottom surface defining a portion of said combustion bowl, and wherein said rounded portion is located between said bottom surface and said sharp edge portion.

19. (Original) The apparatus of claim 18, wherein said piston body having an upwardly flared portion defining a portion of said combustion bowl, and wherein said

upwardly flared portion is located between said rounded portion and said sharp edge portion.

20. (Previously amended) The apparatus of claim 14, wherein said piston body has an outer

circumferential surface; wherein said sharp edge portion is located radially inward to said outer circumferential surface; wherein said combustion bowl is symmetrical about said longitudinal centerline, wherein said piston body having a bottom surface defining a portion of said combustion bowl, and wherein said rounded portion is located between said bottom surface and said sharp edge portion; wherein said piston body having an upwardly flared portion defining a portion of said combustion bowl, and wherein said upwardly flared portion is located between said rounded portion and said sharp edge portion; and wherein said rounded portion, said upwardly flared portion extend circumferentially around said bowl.

21-26. (Cancelled)

27. (Previously presented) A method of operating an internal combustion engine, comprising:

delivering a quantity of fuel into a combustion bowl formed in a first end of an internal combustion engine piston;

flowing a portion of the fuel on a wall member defining the combustion bowl and out of the combustion bowl; and

directing the portion of the fuel in said flowing away from the first end of the internal combustion engine piston and into a combustion chamber within the internal combustion engine.

28. (Previously presented) The method of claim 27, wherein said delivering act the quantity of fuel is received on a rounded circumferential lip defined on the wall member of the combustion bowl.

29. (Previously presented) The method of claim 27, wherein said directing includes passing the portion of the fuel along a surface of the wall member including a sharp corner located where the portion of the fuel exits the combustion bowl.

30. (Previously presented) The method of claim 29, wherein said directing as the portion of the fuel reaches the sharp corner it is routed away from a top surface defined on the first end of the piston around the combustion bowl.

31. (Previously presented) The method of claim 27, wherein said directing prevents the passage of the portion of the fuel across the first end of the piston and into a cylinder cavity in which the piston is located.

32. (Previously presented) The method of claim 27, wherein said directing prevents the portion of the fuel from passing onto an annular surface defined around the combustion bowl.